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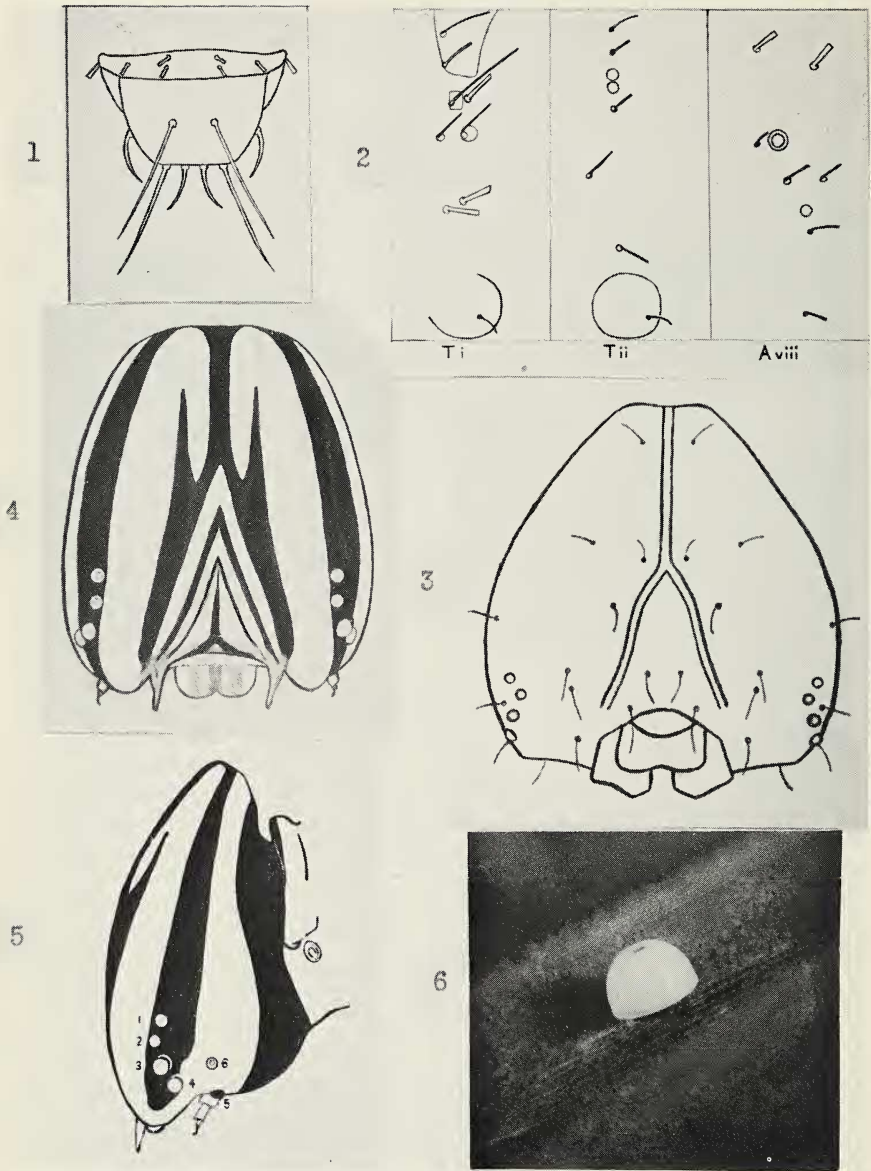
THE LIFE HISTORY OF
AMBLYSCIRTES LINDA (HESPERIIDAE)¹J. RICHARD HEITZMAN² AND ROGER L. HEITZMAN
3112 Harris Avenue, Independence, Mo.

Five forest dwelling species of *Amblyscirtes* are known to occur in the Missouri-Arkansas plateau region. Of the five, *Amblyscirtes linda* H. A. Freeman is the most eremitical. We have found this species a habitue of undisturbed woodland areas along or near small streams with abundant colonies of the host plant. Although the foodplant, *Uniola latifolia* Michx., occurs in most of the Midwestern and Eastern states, the northern range of *A. linda* seems to be the southern tier of counties in Missouri. The Gramineae host species is one of the favorite lepidoptera foodplants of the region acting as primary or secondary host for *Amblyscirtes belli* H. A. Freeman, *Amblyscirtes samoset* Scudder, *Amblyscirtes vialis* Edwards, and *Lethe anthedon* Clark. *A. linda* females can occasionally be collected from low blooming flowers of the wild blackberry and are easily induced to oviposit in captivity. The progeny of early May females have invariably developed rapidly with a 100% emergence of the imagines in June. We have never encountered a third brood in the field and if one occurs it is probably vestigial as with *A. belli*. The adult larvae are unique in several aspects from the other members of the genus that we have studied. The freshly emerged imagine is distinctive with bright fulvous scaling on the dorsal and ventral surfaces of the forewing. Worn specimens lose this fulvous scaling and are then easily confused with *A. vialis* and *A. belli*.

The following description is based on studies of over 100 reared and field collected larvae from northern Arkansas and southern Missouri localities. The illustrations were made by the junior author from specimens reared from a female taken 3 May, 1964 near Eureka Springs, Arkansas.

¹Contribution No. 167, Entomology Section, Div. of Plant Industry, Florida Department of Agriculture and Consumer Services, Gainesville.

²Research Associate, Florida State Collection of Arthropods, Div. of Plant Industry, Florida Department of Agriculture and Consumer Services.



Figs. 1-6.—*Amblyscirtes linda* H. A. Freeman. 1, setae of first instar suranal plate; 2, first instar setal maps of prothorax, mesothorax, eighth abdominal segment, all in left lateral aspect; 3, first instar head capsule, frontal aspect; 4-5, mature larva head capsule, frontal and left lateral aspect showing position of stemmata; 6, ovum X 25.

OVUM: Width .90 mm, Height .65 mm, As pictured, unmarked shiny white in color. Ova are laid singly on the under surface of a leaf near the edge. The egg shell is devoured upon emergence.

FIRST INSTAR LARVA: Head and prothoracic shield shiny black. Integument white with minute white setae. After devouring the egg shell the larva moves to the edge of a leaf and makes a small tent shelter by folding the edge of the leaf partially over and fastening it with strong silken strands.

SECOND INSTAR LARVA: Head and prothoracic shield shiny black. Body color pale bluish green covered with minute white setae. There is a faint indication of a middorsal line. Larval tent as in first instar but longer, in some cases as much as 30 mm. in length.

THIRD INSTAR LARVA: Head white with dark brown lines circling the edges of the epicranial plates and covering the posterior region of the head. Labrum and mandibles brown, clypeus white. Body color pale bluish white with a thick covering of microscopic white setae. Prothorax paler with a contrastingly shiny black prothoracic shield. Thoracic spiracle black, abdominal spiracles inconspicuous. There is a pale blue middorsal heart line fading posteriorly. An entire leaf is used for the tent in this instar which is folded in half and sealed along the edges. The tent is then devoured from the tip down.

FOURTH INSTAR LARVA: Head white, mandibles and labrum reddish brown, clypeus white with a fine black center line. Midcranial inflection black edged, wider along the laterofacial suture. A dorsally directed black dash extends parallel to the wide central band on each side rising from the laterofacial suture band and stopping a few millimeters short of the vertex. Posterior region of head black ringed. Another wide black band circles the edges of the head beginning ventrally just below the anterior stemmata then rising dorsad to the vertex, narrowing where intersected by the midcranial inflection. Head finely setose. Body ground color bluish white, entirely covered dorsally by very short white setae. The posterior end of the abdomen has longer pure white setae. There is a blue middorsal line fading posteriorly and a faint white stigmatal line. Thoracic spiracle black, abdominal spiracles small, white ringed. Abdominal area pale bluish grey. Prothorax pure white with a thin black prothoracic shield. Larval tent as in the third instar.

FIFTH INSTAR LARVA: Length of mature larvae 25 to 30 mm. Width of head case 3.5 mm. Body ground color pale bluish white so thickly covered with snow white setae that the entire body appears covered with snowy mold. There is a faint blue

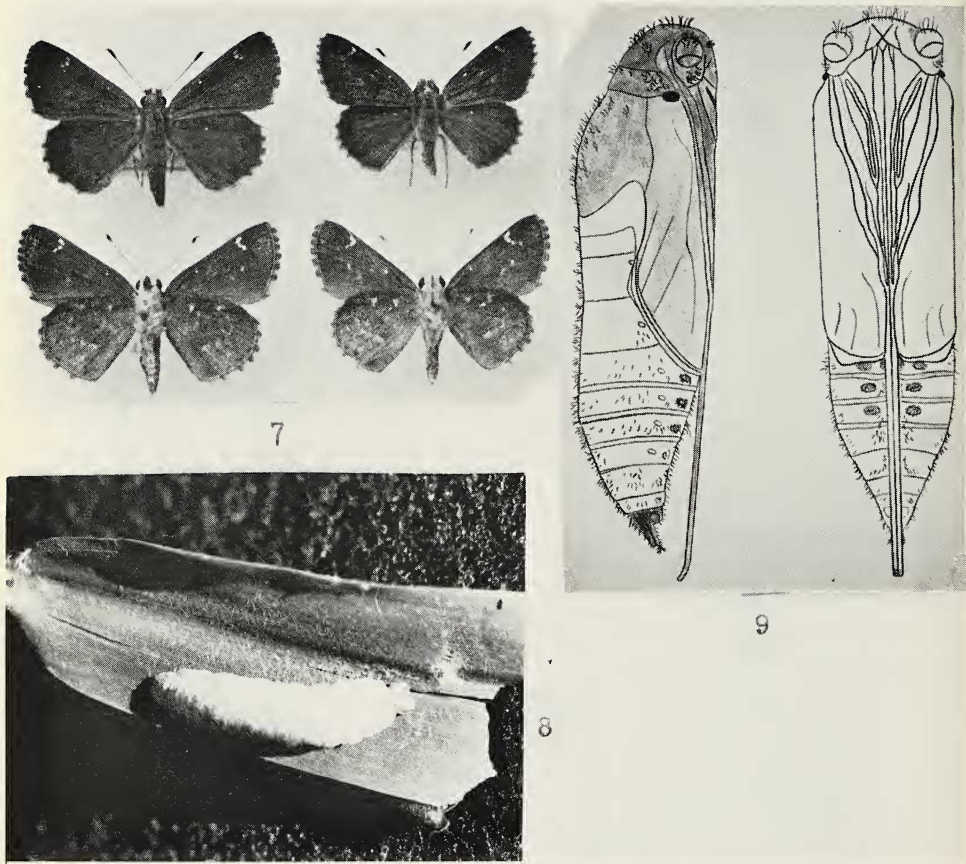


Fig. 7-9.—*Amblyscirtes linda* H. A. Freeman. 7, adult male and female, ventral and dorsal view of specimens from Eureka Springs, Arkansas; 8, mature larva in opened larval tent, natural size; 9, pupa, ventral and right lateral aspect X 4.

mid-dorsal line that disappears posteriorly. Abdominal area slightly bluer with fewer, shorter setae, Spiracles as in fourth instar. Thoracic legs very pale orange brown. Prothorax white with prothoracic shield pale grayish white with two narrow dark subdorsal marks. Head white, mandibles reddish brown, clypeus white with vertical line and lateral bordering sclerites black. Head banded on each side with a wide black line, ventrally enclosing the four anterior stemmata then running dorsad across vertex where it narrows. Midcranial inflection widely banded with black as are the laterofacial sutures. A pointed black band rises from each of the laterofacial suture bands. The paraclypeal spines (Klots 1966) are well developed, arising from a position ventro-lateral to the angle of the clypeus and angled ventrad. Of the four anterior stemmata, 3 is the largest, 4 slightly smaller, 2 is slightly smaller than 1 but protrudes twice as far, 6 is almost directly caudad of 3, 5 is ventrad of 6. At maturity the head markings are partially obliterated by an extremely thick covering of short white setae.

The final instar larval tent is composed of an entire leaf folded over and sealed along the edges with silken strands. Both upper and lower ends are left open. Adjacent leaves as well as the tent leaf are entirely devoured. Larvae are often observed feeding openly in the daytime, especially in native woodland habitats. The larvae are unusually docile, showing no agitation when touched or handled.

PUPAL SHELTER: When the larva is ready to pupate a fresh leaf is rolled over and sealed along the edge and both ends. The larva spins only a vestigial silk lining. The tent is fastened at the upper end to a grass stem two or three inches above the ground. No instances of the shelters being allowed to fall to the ground have been observed although this has been the accepted practice with other *Amblyscirtes* species we have reared. Pupation occurs three to four days after shelter construction.

PUPA: Length 17-19 mm., width at wing cases 4.5 mm. Color of wing cases bright creamy yellow, abdomen paler with a whitish cast. Head and eye cases slightly darker with many stiff reddish setae, a few of which extend over onto the thorax. Mesothoracic spiracles bright red and conspicuous. The abdominal segments have a sparse covering of short orange-red setae arranged in definite tufts on each segment paralleling the tounge case which is pale orange brown, long, and slightly curved. Cremaster reddish brown, curved ventrally with several long stiff bristles. The cremaster hooks are firmly embedded in the

side of the shelter and hold the pupa in fixed position at the base of the tent.

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LITERATURE CITED

- KLOTS, ALEXANDER B. 1966. The Larva of *Amblyscirtes samoset* (Scudder) (Lepidoptera: Hesperiiidae). *Jour. New York Ent. Society*, Vol. 74, No. 4:185-188.